Feid-Chair (Algeria), August 16, 1876. The stone consists of fragments of two very oolithic rocks, one called "Limerickite," of a dark violet colour, the other, called by M. Meunier "Montréjite," quite white. From the juxtaposition of different rocks in this as in some other meteorites, M. Meunier argues that, in the *milieu* where these stones are formed, the general geological conditions must be analogous to those which exist on the earth.

NOTES.

THE general meeting of the Association for the Improvement of Geometrical Teaching is to be held at University College, Gower Street, on Saturday, January 17. At the morning sitting (10.30 a.m.), the reports of the Council and Committees will be read, and the new officers will be elected. On the conclusion of the elections Miss Wood will read a paper "On the use of the term 'Abstract' in Arithmetic." After an adjournment for luncheon at 1 p.m., members will re-assemble for the afternoon sitting (2 p.m.). Papers will be read by Prof. Minchin, on "Another Voyage to Laputa"; by Mr. E. T. Dixon, on "The Foundations of Geometry"; and by Mr. E. M. Langley, on "Some Notes on 'Statics and Geometry.'"

PROF. RUDOLF VIRCHOW will reach his seventieth birthday on October 13. It has been decided that the occasion shall be commemorated by the striking of a large gold medal in his honour.

SEVERAL men of science were included in the list of New Year honours. A baronetcy was conferred on Dr. Richard Quain, and Prof. George Humphry, Cambridge. Prof. Ball Director of the Museum of Science and Art, Dublin, was made a C.B.; Dr. Theodore Cook, Principal of the College of Science, Poona, became a Companion of the Most Eminent Order of the Indian Empire; and Mr. Frederick McCoy, C.M.G., Professor of Natural Science in the University of Melbourne, was promoted to be an ordinary member of the second class, or Knight Commander of the Most Distinguished Order of St. Michael and St. George.

THE memorial concerning the ancient monuments of Egypt, which was lately presented to Lord Salisbury, has been so far successful. It is to be forwarded to H.M.'s Agent and Consul-General at Cairo, for presentation to the Egyptian Government; and Sir E. Baring will be instructed to state that if an official inspector is appointed the question of his nationality will not be considered important, the only desire of the British Government being that adequate steps shall be taken "to preserve the monuments from further destruction or mutilation."

WE regret to have to record the death of Mr. John Marshall, F.R.S., President of the General Medical Council, and Professor of Anatomy to the Royal Academy. He died on January 1, at the age of seventy-two. Mr. Edward Bellamy, whose studies were akin to those of Mr. Marshall, died on the 4th inst. after an illness of only three days. He had been for many year lecturer on artistic anatomy at the South Kensington School.

PROF. CASEY, F.R.S., Fellow of the Royal University of Ireland, died on January 3, at the age of seventy. He was an eminent mathematician, and much regret at his death has been expressed in Ireland.

A CIRCULAR letter from the Societa Italiana di Scienze Naturali of Milan, dated January 2, announces the death of their President, the Cav. Abate Antonio Stoppani, Professor of Geology in the R. Istituto Tecnico Superiore. The President died on New Year's Day, at the age of sixty-six.

PROF. W. J. STEPHENS, President of the Linnean Society of New South Wales, died on November 22, 1890. At the meeting of the Society on November 26, resolutions were passed, expressing high appreciation of his services and sympathy with his family.

MR. WILLIAM LANT CARPENTER, who died on December 23 last, was the eldest son of the late Dr. W. B. Carpenter. He was born in 1841, and educated at University College School and University College. At the age of eighteen he went to Bristol as chemist to Messrs. C. J. Thomas and Brothers, soap and candle manufacturers, in which firm he became a partner. Afterwards he gave up business, and settled in London, eventually becoming one of the managers of the School of Electrical Engineering in Hanover Square. For some time past he has been widely known, more especially in the north of England, as one of the most successful lecturers in connection with the Gilchrist Educational Trust and the University Extension movement. In 1885 he brought out "A Treatise on the Manufacture of Soap and Candles, Lubricants, and Glycerin"; and he contributed a few papers on kindred subjects to the Journal of the Chemical Society, and the Proceedings of the British Association. Under the title "Energy in Nature" he published in 1883 a popular exposition of the doctrine of the conservation of energy, being the substance of six lectures delivered for the Gilchrist Educational Trust two years previously; and in conjunction with the late Prof. Balfour Stewart he contributed some papers to the Proceedings of the Royal Society on the periodic changes of sun-spots, and their connection with terrestrial and magnetic phenomena.

ON January 2 the Institution of Civil Engineers reached its seventy-third anniversary. The numbers of the various classes now on the books comprise 1700 members, 2880 associate members, 427 associates, 19 honorary members, and 927 students—together 5953.

THE Calendar of the Department of Science and Art for the year 1891 has been issued.

A SPECIAL Commission has been for some years established at Trieste by the Austrian Government for the oceanographic investigation of the Ionian and Adriatic Seas. During the past year the transport *Pola* has been set apart for the study of the sea-bottom, currents, temperature, &c., of the Adriatic, and has obtained important results. At a depth of 2000 metres abundance of a green Alga, *Halosphæria viridis*, was found.

THE marine laboratory of the Johns Hopkins University is to be opened next spring.

A PHOTOMICROGRAPHIC laboratory has been opened at Rimini by Count R. Sernagiotto, for the preparation and publication of photographic reproductions. Among the microphotographs already issued, *Notarisia* mentions, as of remarkable clearness and beauty, one of *Pleurosigma angulatum*, 5000 diams., of *Bacillus radiciformis*, 1000 diams., and a tangential section of the stem of the vine, 75 diams.

THE American National Educational Association will hold its next meeting at Toronto in July. Many teachers of the Dominion have become members, and *Science* says that "they will meet in Toronto in full force, and will prepare an exhibit giving a complete view of Canadian systems of education."

UNDER the auspices of the Penzance Natural History and Antiquarian Society and the Committee of the Penzance Library, a fund is being raised for the purpose of erecting a suitable monument or tombstone in Penzance Cemetery, as a memorial of the late Mr. John Ralfs, who died July 14, 1890. Subscriptions should be sent to Mr. W. Bolitho, Jun., Penzance, Treasurer of the Ralfs Fund.

DR. JULIUS WORTMANN, one of the editors of the *Botanische Zeitung*, has been appointed Director of the physiological experimental station of the Royal Institution for instruction in fruit- and vine-culture at Geisenheim on the Rhine.

THE Trustees of Columbia College, U.S.A., have appointed as Curator of their Herbarium Dr. Thos. Moring, who has just returned from a botanical exploration of southern South America with very large and valuable collections.

THE Horace Mann School, Boston, Mass., recently celebrated its twenty-first anniversary. The Hon. Gardiner G. Hubbard delivered an interesting address on the occasion, sketching the history of the articulating system for the deaf in America. In 1860, Mr. Hubbard's daughter, who was then four years old, lost her hearing through a severe illness. Mr. Horace Mann and Dr. Howe had been studying the various methods of educating the deaf in Europe, and had reported in favour of the oral system which had for some time been practised in Germany. Mr. Hubbard therefore consulted Dr. Howe, who recommended that the child's relatives should talk to her, and teach her to recognize the spoken words of their lips. He especially urged that they should not have recourse to signs, and that they should persistently refuse to understand them. The plan was tried, and the result was so successful that a little school for the deaf, with Miss Rogers as teacher, was opened at Chelmsford in 1866. By and by a charter was granted, and the school was transferred to Northampton. The system attracted the attention of Mr. Dexter S. King, and through his efforts a school was started in Boston in 1869. This institution was afterwards called the Horace Mann School, and its success was to a large extent due to the intelligence and enthusiasm of Miss Fuller and Miss Bond, to whose work Mr. Hubbard, in his address, did ample justice. Now the advantages of the oral system are widely recognized, and, as Mr. Hubbard pointed out, the influence of the Horace Mann School has been felt in England as well as in many different parts of the United States.

IN connection with a meeting of the American Electric Light Association, which is to be held at Providence in February, there will be an exhibition of electrical apparatus and appliances, especially such as are used in the furnishing of light and power. This meeting will practically mark the close of the first decade of "electric lighting commercially." It has been suggested, therefore, as we learn from *Science*, that efforts should be made to show the progress in the art by the exhibition of the earlier forms of apparatus and appliances, along with those embodying the latest improvements.

AT the meeting of the French Cremation Society on December 13, an able address on the subject of cremation was delivered by M. Frédéric Passy, member of the Institute. Dealing with the common objection that incineration would facilitate poisoning, he urged that the traces of vegetable poisons vanish rapidly, and that if mineral poisons were used most of them could be detected in the ashes. Moreover, he insisted that there are poisons the presence of which in a human body does not necessarily prove that a crime has been committed; and that if cremation were generally adopted greater care would be taken to determine the precise causes of death. That there is in many minds a strong prejudice against cremation he admitted; but this he attributed to the influence of ancient custom. Irresistible evidence, he maintained, showed that the existing system cannot but be injurious to public health.

THE Administration of the schools of Caucasia is continuing the publication of the excellent linguistic works of Baron Uslar. The fourth volume, which is now out, contains his study of the Lakh language, as well as (in an appendix) his letters to Prof. Schiepner and a Kazy-kumukh alphabet.

THE British Museum (Natural History) has issued the third edition of a Catalogue containing a list of all the subjects of which moulds and store-casts have been prepared for the purpose of supplying museums, and the public generally, with copies of the most striking objects in the collection that will admit of being moulded without injury. The casts are chiefly reproductions of specimens of fossils in the Department of Geology. The prices (revised to date) have been approved by the Trustees.

AN excellent number completes the third volume of the *Internationales Archiv für Ethnographie*. Dr. P. Schellhas, of Berlin, contributes (in German) a most careful paper embodying the results of comparative studies in the field of Maya antiquities. These antiquities he divides into three classes—architectural remains; Maya MSS.; and smaller objects. The latter class has been greatly enriched by the Yucatan collection now in the Berlin Museum für Völkerkunde. Dr. J. H. Spitzly, military surgeon in the Dutch West Indian army, brings together some instructive notes (in English) on three stone adzes from Surinam (Dutch Guiana), and on eight stone implements from the islands of St. Vincent and St. Lucia. A paper (in German) on old Mexican and South American throwing-sticks is contributed by Dr. H. Stolpe, of Stockholm; and Dr. J. D. E. Schmeltz, Director of the Leyden Ethnographical Museum, offers (in German) various facts and suggestions relating to the ethnography of Borneo. The illustrations, as usual, are remarkably good.

WE have received the volume of Records of the meeting of Russian Naturalists and Physicians which was held at the beginning of this year at St. Petersburg. It is a well printed octavo volume of about 1000 pages, with several engravings and maps, and it is sold at the extremely moderate price of five roubles. It contains the proceedings of all the meetings, and abstracts of the chief papers read, or the papers themselves; thus giving a series of most valuable contributions and notes in mathematics and astronomy, physics, chemistry, botany, zoology, geology, geography and anthropology, scientific agriculture, and scientific medicine. Some of the papers are very elaborate.

AN earthquake in Northern California, on January 2, is reported by Prof. Holden, of the Lick Observatory, to have been the most severe experienced in that district since 1868. The ceilings of the Observatory were cracked, the plaster falling to the floor. The large equatorial telescope is, however, believed to be uninjured.

LIEUT. J. P. FINLEY has published his long-promised storm-track, fog, and ice charts of the North Atlantic Ocean, in a quarto atlas. Part i. consists of track-charts for each month; these form a very tangled skein, but the *general* drift of the storms can be clearly seen: the majority of them pass to the north-west of the British Isles. Part ii. consists of 13 charts representing the storm frequency by shaded areas. A careful study of these charts will materially assist shipmasters to determine the general locality and frequency of storms in different months. If the main object were safety instead of speed, a more southerly route than the "lanes" generally followed would be preferable. In voyages *from* America vessels sail more or less with the prevailing direction of the wind, and *vice versâ*. The fog and ice charts show the average probable and extreme eastern and southern limits at which these may be encountered in each month. Icebergs are most frequently met with from July to September inclusive; from November to June the drift of the bergs southwards is impeded by ocean ice in the friths.

THE *Bulletin Mensuel* of the Zi-ka-Wei Observatory (near Shanghai) contains a discussion of the monsoons of the Yang-tse-Kiang from the observations at the stations of the maritime customs established from the entrance of that river as far as Hankow. The results are given in the form of wind-stars, which show that at the mouth of the river the influence of the two monsoons is sharply marked: the winter monsoon blows from between north-west and north-east, the north-west winds being most prevalent, while the summer monsoon blows from between south and south-east. After leaving the mouth the distinction is not so plainly marked; the prevalent winds tend more to the north-east in winter, and in summer more to the east and even north-east.

THE new Russian *Meteorologitcheskiy Sbornik*, published by the Russian Academy of Sciences, to the first volume of which we referred the other day (p. 183), contains Russian translations and Russian originals of papers published in German and French in vol. xiii. of the *Repertorium für Meteorologie*. The two publications will be parallel, under the Director of the Central Observatory, H. Wild.

IN a report to the Foreign Office, recently published, Colonel Stewart, the British Consul-General at Tabreez, calls attention to the curious system of lakes in that region, situated at a great elevation above the sea-level. These are the lake of Urumia, situated 4100 feet above the sea, Lake Van, and the Guektcha lake. Lake Van is in Turkish territory and the Guektcha lake in Russian territory, though both are near the bottom of the Persian province of Azarbaijan, in which is situated the lake of Urumia, the largest and most important. It is 84 miles long and 24 miles broad, and is probably the saltest piece of water on earth, being much salter than the Dead Sea. The water contains nearly 22 per cent. of salt. Its northern coasts are encrusted with a border of salt glittering white in the sun. It is said that no living thing can survive in it, but a very small species of jelly-fish does exist in its waters. Many streams pour down from the Kurdish mountains which border Turkey, and render the country between them and the lake of Urumia very green and fertile. This part of the country looks more like India than Persia, but the climate is severe in winter. The whole country being situated from 4000 feet to 5000 feet above ocean level, the snowfall in winter is great. At night in winter the thermometer falls frequently below zero of Fahrenheit, but in the day-time it rises considerably, generally reaching 28° or 30°, and this with a bright sun overhead. Many people are frozen to death on the roads in winter while crossing the various passes. The winter climate may be compared to that of Canada, but the summer approaches that of Northern India.

THE area under the administration of the Bengal Forest Department, according to its last Report, during 1889-90 consisted of 5195 square miles of reserved forest, 2239 square miles of protected forests, and 4034 square miles of unclassed State forest and waste lands, aggregating 11,468 square miles, which is 5½ per cent. of the total area of the province, viz. 193,198 square miles. The forests are, however, confined to the districts bordering on the sea, the sub-Himalayan tracts and the plateau of Central India, so far as it stretches into Chota Nagpore and Orissa. An area of 207 square miles was added to the reserves during the past year, and 25 square miles of protected forests in the Sunderbunds were farmed out for reclamation. The title of Government to existing reserves is being completed by a compliance with the requirements of the Act, and the inquiries incidental to these proceedings will also secure the record and protection of private easements. The special measures taken for the protection of forests from fires have been increasingly successful, 95 per cent. of the areas thus dealt with having escaped, in spite of the dryness of the season, against 72·9 per cent. in the previous year. The financial results of the past year show a net surplus of Rs. 3,78,454, against Rs. 3,08,738 in 1888–89.

TOADS have been observed by some persons to feed willingly on bees and even wasps; and M. Hiron-Royer, who has noticed the fact, says that *Hyla versicolor* is positively frantic about wasps. He has seen one prefer them to every other kind of food, and devour them eagerly, although the sting does sometimes bring the creature to temporary grief.

ONE of the last volumes of the *Mémoires* of the Kazan Naturalists (vol. xxii. 5) contains a most valuable work by P. Krotoff and A. Netchaieff, upon the geology of the Kama region, being the first part of a general description of that region which the Society intends to publish. The oldest geological formation of the region is that succession of red and grey sandstones and limestones, as well as of "variegated marls," which is considered as Permian by the Kazan geologists, and Triassic by other Russian explorers. The chief interest of the Lower Kama region is, however, in its Post-Pliocene deposits. They cover nearly the whole of the territory, and belong to two different series: the yellow loess-like sandy clays—containing the usual terrestrial shells (*Helix*, *Pupa*, *Succinea*, *Limnæus*, *Pisidium*, &c.), together with bones of Mammoth and Rhinoceros—and the Caspian deposits. The latter attain a quite unexpected development, as they are found in all the valleys, thus bearing unmistakable evidence of the former extension of gulfs of the Caspian Sea up the valley of the Kama (almost as far as its junction with the Vyatka) and its tributaries. Deposits, containing the undoubtedly Caspian species of *Adacna plicata*, *Cardium edule*, *Dreissena polymorpha*, and *Valvata piscinalis*, as well as teeth of fishes, reach the heights of from 530 to 540 feet above the sea-level; and their presence has been noticed on the Byelaya river as far as Angasyak, as also in the north of the Kama at the town of Laishev, and in the lower parts of the Mesha river. It is thus certain that a gulf of the Caspian Sea penetrated up the valley of the Volga and its tributaries as far as 55° 23′ of northern latitude, and that the upper parts of this gulf contained a water less salt than that of the Caspian Sea. It is very difficult to ascertain whether the deposits just mentioned belong to the later parts of the Pliocene period, or to the earlier parts of the Post-Pliocene, and Russian geologists are divided upon this point. But the Kazan authors point out the absolute identity of the fossil species of *Adacna*, *Cardium*, *Dreissena*, *Didacna*, and *Hydrobia*, with those now living in the Caspian Sea; while the discovery in a fossil state of a species of *Corbicula*, and Prof. Sintsoff's *Hydrobia novorossica*, which are not met with now in the Caspian Sea, is not considered as sufficiently proving the greater antiquity of the Kama deposits. Part of these deposits have been denuded by the rivers and mixed with the above-mentioned loess.

OUR ASTRONOMICAL COLUMN.

PERIHELIA OF COMETS.—In *Astronomische Nachrichten*, No. 3005, Dr. Holetschek discusses the apparent connection between the heliocentric longitudes of comet perihelia and the heliocentric longitude of the earth at the times of their perihelion passages. It is evident that any one comet appears brightest when its *perihelion* passage occurs at the same time as that of *perigee*. The possibility of discovering and observing comets decreases, therefore, with the increase of the arc contained between the heliocentric longitudes (l) of comet perihelia and the heliocentric longitude (L) of the earth during the perihelia.